

# EURēCA

## 2013 EURēCA Awardees

The university offers undergraduates the opportunity to reach beyond the classroom to pursue the excitement of original research and creative projects. Every spring, the Office of Research & Engagement organizes the Exhibition of Undergraduate Research and Creative Achievement (EURēCA) — a two-day exhibition and performance event for students. Projects judged to be the best overall are recognized with the **Phi Kappa Phi National Honor Society Awards**, **William Harris III Undergraduate Research Award**, **Office of Research Top Undergraduate Research Award**, and the **Environmental Sustainability Award**.

## College of Agricultural Sciences and Natural Resources



**William Barbour**

Project: *Design of an Underwater Video and GPS Mapping System for the Exploration of Streambed Aquatic Populations*

Faculty Mentor: Paul Ayers



**Samantha Brown**

Project: *Cj0843c, a putative lytic transglycosylase, contributes to beta-lactam resistance in Campylobacter jejuni*

Faculty Mentor: Jun Lin

### Phi Kappa Phi Award Winner



**Ariel Buehler**

Project: *Microgreens: Use of Green Fluorescent Proteins to Evaluate Antimicrobial Efficacy*

Faculty Mentor: Faith Critzer



**Anthony Cicco**

Project: *Comparison of grapeseed, pomegranate, and cranberry extracts against salmonella enterica sorovants Typhimurium and Enteritidis*

Faculty Mentor: Doris D'Souza



**Joshua Grant**

Project: *Functional analysis of a putative membrane-bound endo- $\beta$ -1-4-glucanase from *Panicum virgatum**

Faculty Mentor: Neal Stewart



**Chelsea Johnson**

Project: *Molecular characterization of herbicide resistance in horseweed (*Conyza canadensis* L.)*

Faculty Mentor: Neal Stewart

## College of Architecture and Design



**Haley Allen**

Project: *Omakuva [self-portrait] Re-Align*

Faculty Mentor: Brian Ambroziak



**Ali Alshaleh, Kyle Jenkins, and Jake Heaton**

Project: *Steam Bending: Explorations with Wood in Parametric Design*

Faculty Mentor: Gregory Aspaw

**Christina Clouthier, Stephen Guertin, Walker Westbrook, and  
Geoffrey Hillstead**

Project: *A Study of Applachian Vernacular as it Pertains to the Design of  
Modern Prefab Architecture*

Faculty Mentor: Goeritz, Hansjoerg



**Amanda Gertsen**

Project: *Collective Dialogue*

Faculty Mentor: Jennifer Akerman



**Holly Harris**

Project: *Confabulatores Nocturni: Edgar Allan Poe Creative  
Writing Pavillion*

Faculty Mentor: Brian Ambroziak



**Michael Housley**

Project: *Perceptions of Identity*

Faculty Mentor: Katherine Ambroziak



**Margaret Jamison, Deanna Olson, and Caroline McDonald**

Project: *Learning Landscape IDEC*

Faculty Mentor: Jeff Geren



**Kirsten Reed**

Project: *Reconstructing Process [investigations into the  
relationship of the hand and the machine]*

Faculty Mentor: Jennifer Akerman



**Benjamin Wathen**

Project: *Knoxville Planetarium*

Faculty Mentor: Katherine Ambroziak

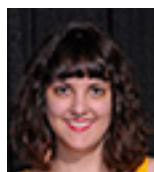
# School of Art



**Jennifer Grant**

Project: *You Know Your Voice is Kind of Nice When Your Mouth Isn't Screwing it up*

Faculty Mentor: Marcia Goldenstein



**Deborah Rule**

Project: *What You Always Wanted to Knox*

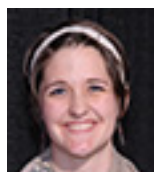
Faculty Mentor: Marcia Goldenstein



**Tara Sripunvoraskul**

Project: *Chinese Language Mobile Apps*

Faculty Mentor: Carolyn Staples



**Lyndsey Stewart**

Project: *Etching and Oxidation: Inkless Printing*

Faculty Mentor: Beauvis Lyons

**Catherine Widner**

Project: *Origins: Formation, Deterioration*

Faculty Mentor: Marcia Goldenstein and K. Yamamoto

# College of Arts and Sciences

## **Desta Bume**

Project: *Controlled Formation of Metal Silicate Monolayer on Silicon Wafers*

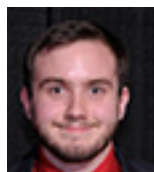
Faculty Mentor: Craig Barnes



## **Matthew Culbert**

Project: *3-dimensional imaging and quantification of cell adherence on curved surfaces of medical grade devices using confocal laser-scanning microscopy*

Faculty Mentor: John Biggerstaff



## **Matthew Dillon**

Project: *Ballistic Missile Defense*

Faculty Mentor: Brandon Prins



## **Peter Duden**

Project: *Phosphorylation Regulates Myosin Driven Organelle Movements*

Faculty Mentor: Andreas Nebenfuehr



## **Connor Gautam**

Project: *Simulations of Mirror Neutron Oscillation/Regeneration*

Faculty Mentor: Yuri Kamyshev

## **Phi Kappa Phi Award Winner**



## **Bethany Good**

Project: *Virtus et Oratio: Manliness and Rhetoric in Early Imperial Rome*

Faculty Mentor: Maura Lafferty



**Devin Jones**

Project: *Corn and Rice Strains of Spodoptera frugiperda (Lepidoptera: Noctuidae) and Fall Migration in South Texas*

Faculty Mentor: Gary McCracken



**Devin Pinkston, Marcus Wild, Betsy Pack, and Claire McCarter**

Project: *Relationship satisfaction and diabetes-specific anxiety: Gender and ethnicity as moderating variables*

Faculty Mentor: Kristina Gordon



**Jeffrey Rymer**

Project: *Novobiocin as an Allosteric Modulator of Ste2p*

Faculty Mentor: Jeff Becker



**McCall Sarrett**

Project: *The Effects of Pedagogical Conditions on Second Language Processing*

Faculty Mentor: Harriet Bowden

**Nancy Tran**

Project: *Arabidopsis Calmodulin like gene (CML38) – A Novel Anaerobic Response Polypeptide and A Suppressor of Gene Silencing*

Faculty Mentor: Dan Roberts



**Jasmine Vazin**

Project: *What's for dinner? Potential activities and substrate specificities of diverse extracellular peptidases in the Tennessee River*

Faculty Mentors: Andrew Steen and Steven Wilhelm



**Austen Webber**

Project: *Effects of Viral Lysis on Carbon Cycling in Marine Microbial Communities; Assaying Extracellular Enzymes and Tracking Size Fractions of Released Dissolved Organic Matter*

Faculty Mentors: Andrew Steen and Steven Wilhelm



**Kendal Youngblood, Robert Pinter, and Patrick Hollis**

Project: *Oral History Projects of U.S. Veterans of World War II*

Faculty Mentor: Vejas Liulevicius

## College of Business Administration



**Hannah Alexander**

Project: *International Taxation and Initial Foreign Entries*

Faculty Mentor: Lane Morris

**Jonathan Chavez**

Project: *The Network: Financial Connectivity and Economic Growth*

Faculty Mentor: Lane Morris



**Rebecca Colburn**

Project: *Returns Management and Consumer Satisfaction*

Faculty Mentor: Lane Morris



**Robert Davis**

Project: *The Effect of Subsidies on Solar Panel Purchases*

Faculty Mentor: Lane Morris



**Nicholas Love**

Project: *Sustainable Fish: A Look at Consumer Behavior*

Faculty Mentor: Lane Morris

**Christopher Miles**

Project: *Will Say on Pay Matter?*

Faculty Mentor: Lane Morris

**Margaret Ross**

Project: *The Effectiveness of Coupons in Grocery Stores*

Faculty Mentor: Lane Morris

**Daniel Whitaker, III**

Project: *Tennessee's Gas Tax: Burning Gas and Dollars*

Faculty Mentor: Lane Morris

# College of Communication and Information

**Lauren Beets**

Project: *Multimedia Storytelling*

Faculty Mentor: Robert Heller

## William Harris III Undergraduate Research Award

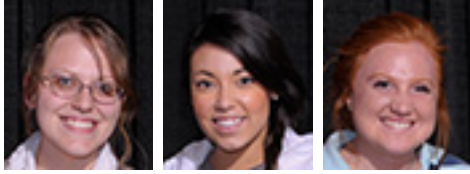


**Emily Blocher and Hannah Allen**

Project: *Streetwise: Burn the Night*

Faculty Mentor: Robert Legg





**Christine Copelan, Kristin Carver, and Lauren Gregg**

Project: *Mommy Made Me: An Investigation of Flu Shot Influences*

Faculty Mentor: Ron Taylor



**Nathaniel (Nate) Patton**

Project: *Multimedia Story Telling*

Faculty Mentor: Robert Heller

## College of Education, Health, and Human Sciences



**Sheryl Benson**

Project: *Repeated Food Exposure via the Olfactory and Gustatory Systems and Rate of Salivary Habituation*

Faculty Mentor: Hollie Raynor



**Elisabeth Spratt**

Project: *Determining the effects of oral delivery of bile salt hydrolase in Zucker fatty rats*

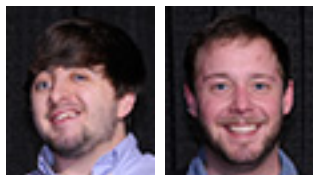
Faculty Mentor: Guoxun Chen



**Emily Tucker**

Project: *Gender and Mother-Child Interaction in Informal Urban Settlements of Kenya*

Faculty Mentor: Hilary Fouts



**Laura Wilson, Maxwell Graham, Amanda Hall, Brianna Wilkerson, and Stephen Polcsa**

Project: *Raising the Bar: Comparative Analysis of Neighborhood Culture and Demographics on Profit Margins and Socioeconomic Status of Bar Businesses*

Faculty Mentor: Rachel Chen

## College of Engineering

### Office of Research & Engagement Top Undergraduate Award Winner



**Mary Bailey and Adithi Amarnath**

Project: *Elucidating Role of Heart Valve Cells in the Aortic and Mitral Valve Calcification*

Faculty Mentor: Zannatul Ferdous

### **Morgan Baltz**

Project: *Characterization of Influenza Hemagglutinin Mutants for the Elucidation of an Autocatalytic Mechanism*

Faculty Mentor: Eric Boder



**Brock Bartley**

Project: *Oxidation and Plasmonic Behavior of Ag-Co nanoparticle Arrays*

Faculty Mentor: Ramki Kalyanaraman



**Thomas Warren de Wit**

Project: *An Inter-Keypoint Orientation Descriptor for RGB-D Object Recognition*

Faculty Mentor: Lynne Parker



**Alexandra Hackett**

Project: *Mechanical Characterization of Ion-Irradiated Silicon Carbide by Nanoindentation*

Faculty Mentor: Erik Herbert



**Ryan Hodges, Brandon Massengill, Brittani Perez, and Chanci King**

Project: *Subclinical Mastitis Inline Detection System*

Faculty Mentor: John Wilkerson

**Victor Lollar**

Project: *In-Situ Condition Monitoring of Components in Small Modular Reactors*

Faculty Mentor: B.R. Upadhyaya

## School of Music

### Phi Kappa Phi Award Winner



**Carson Hayes, Eric Greenep, and Matt Gabriel**

Faculty Mentor: Wesley Baldwin

**Sean Copeland, Daniel Reeve, Nathan Arnwine, and Tylar Bullion**

Faculty Mentor: Dan Cloutier



**Megan Brooker**

Faculty Mentor: Shelley Binder

**Andrea Markowitz**

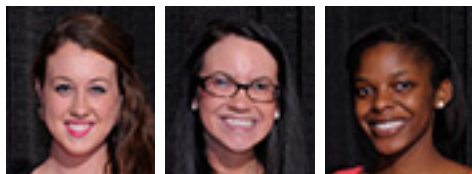
Faculty Mentor: Marjorie Stephens

## College of Nursing

**Tristan Daniel, Elizabeth Berry, and Cynthia Denton**

Project: *Effective pain management strategies for patients with addiction histories*

Faculty Mentor: Thompson, Kathleen



**Anna Freels, Evan Berres, and Summer Reives**

Project: *Awareness of the Female Condom Among Undergraduate College Students at the University of Tennessee*

Faculty Mentors: Sadie Hutson and Ezra Holston



**Blair Slingerland and Egan Monroe**

Project: *CUVO's Caps*

Faculty Mentor: Kathleen Thompson

## College of Social Work



**Jasmine Brown**

Project: *Effects of Rental Assistance on Recipients' Living Situations*

Faculty Mentor: Sungkyu Lee



**Jessica Heins**

Project: *Effectiveness of Interventions Provided by Knox County for Families with Truant Behavior*

Faculty Mentor: Sungkyu Lee



**Candice Sellers**

Project: *Effect of Integrated Services on HIV-positive Clients' Physical Health*

Faculty Mentor: Sungkyu Lee



**John Wells**

Project: *Effectiveness of a Community-Based Intervention on Criminal Thinking among Adults with Mental Illness Who are at Risk of Recidivism*

Faculty Mentor: Sungkyu Lee

# Theatre



**Adam Crandall**

Project: *Almost, Maine*

Faculty Mentor: Casey Sams